

Message

**From:** GT700@dnvps.com [GT700@dnvps.com]  
**Sent:** 1/31/2014 9:53:17 PM  
**To:** Robert Love [rlove@aet-tankers.com]  
**CC:** Eagle Sibu [Eagle.Sibu@aet-tankers.com]; AETSM - Team Atlantic [Team-Atl@aet-tankers.com]  
**Subject:** EAGLE SIBU, FUEL ANALYSIS REPORT, GALVESTON, 10-JAN-2014, SAMPLE : HOU1402839

To: AMERICAN EAGLE TANKERS, INC.  
 Attn: Mr Robert Love, Bunker Manager  
 Attn: Atlantic Fleet

Cc: The Master Of 'EAGLE SIBU'  
 Attn: Chief Engineer

DNV Petroleum Services - Fuel Analysis Report dated: 31-Jan-2014

Vessel: **EAGLE SIBU (9199828)**

Sample Number	HOU1402839
Product Type	(HFO)
Bunker Port	GALVESTON
Bunker Date	10-Jan-2014
Sampling Point	SHIP MANIFOLD
Sampling Method	CONTINUOUS DRIP
Sent From	HOUSTON-DOWNTOWN
Date Sent	29-Jan-2014
Arrived at Lab	30-Jan-2014
Supplier	PENINSULA
Loaded From	BUFFALO 400
Quantity per C.Eng.	910

Seal data DNVPS, SEAL INTACT, 7641633

Related Samples	
MARPOL	36438504
Unknown	7641631
Unknown	7641632
Unknown	7641634

Receipt Data	Unit	
Source Of Data		B.D.N.
Density @ 15°C	kg/m <sup>3</sup>	990.3
Viscosity @ 50°C	mm <sup>2</sup> /s	345.7
Sulfur	% m/m	2.53
Volume @ 60°F	bbl	5990.340
Quantity	MT	943.870

Tested Parameter	Unit	Result	RMG380
Density @ 15°C	kg/m <sup>3</sup>	989.4	991.0
Viscosity @ 50°C	mm <sup>2</sup> /s	322.4	380.0
Water	% V/V	0.3	0.5
Micro Carbon Residue	% m/m	12	18
Sulfur	% m/m	2.30	3.50
Total Sediment Potential	% m/m	0.03	0.10
Ash	% m/m	0.07	0.15
Vanadium	mg/kg	129	300
Sodium	mg/kg	48	
Aluminium	mg/kg	20	
Silicon	mg/kg	19	

Iron	mg/kg	36	
Nickel	mg/kg	42	
Calcium	mg/kg	25	
Magnesium	mg/kg	3	
Zinc	mg/kg	9	
Phosphorus	mg/kg	8	
Potassium	mg/kg	2	
Pour Point	°C	LT 24	30
Flash Point	°C	GT 70	60
Acid Number	mg KOH/g	0.90	
Strong Acid Number	mg KOH/g	0.00	
<u>Calculated Values</u>			
Aluminium + Silicon	mg/kg	39	80
Net Specific Energy	MJ/kg	40.34	
CCAI (Ignition Quality)	-	852	
Quantity (Weight)	MT	940.887	
Quantity Difference	MT	-2.983	

**Note:**

LT means Less Than, GT means Greater Than.

Quantity (Weight) is based on BDN Volume, DNVPS Density and a weight factor of 1.1 kg/m<sup>3</sup> (ASTM D1250-80 Table 56).

Specification Comparison :

Results compared with amended ISO 8217:2005 specification RMG380, table 2. Based on this sample the specification is met.

Operational Advice :

Approximate fuel temperatures:

**Injection:**

140°C for 10 mm<sup>2</sup>/s  
125°C for 15 mm<sup>2</sup>/s  
115°C for 20 mm<sup>2</sup>/s  
105°C for 25 mm<sup>2</sup>/s

**Transfer :**

40°C

Best Regards,

On behalf of DNV Petroleum Services Pte Ltd

Christian Ryder

Assistant Technical Advisor

End of Report for EAGLE SIBU

If not properly aligned, please change font to Courier New, size 10.

Reference to part(s) of this report which may lead to misinterpretation is prohibited.

Please instruct your agent to use our appointed courier services for sending samples to our laboratory. Please refer to our Air Courier Directory for detailed information.

For technical or operational advice or further information on this report please contact your nearest DNVPS office or contact us directly at

Tel : +1 (281) 470 1030

Email : Houston@dnvps.com

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